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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/634,522	08/08/2000	Lawrence W. Kimberly	0113022-002	4661 14

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EXAMINER

WACHTEL, ALEXIS A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/634,522

Applicant(s)

KIMBERLY, LAWRENCE W.

Examiner

Alexis Wachtel

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 29-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 29-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Detailed Action

Specification

1. The abstract of the disclosure is objected to because no color drawing is provided as referenced by the specification. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 39,41,43,45,47,49,51,53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular Applicant fails to explain what is meant by the phrase "microsphere particles have a single nominal diameter". Does Applicant want to say that only one specific sized microsphere particle is present? Does Applicant mean for the diameter on any microsphere to be substantially similar thus precluding the use of non-spherical microparticles? Examiner interprets the phrase in question as meaning that a microsphere must have a substantially similar diameter at any measurement point along its surface.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 39,41,43,45,47,49,51,53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respects to the

Art Unit: 1764

aforementioned claims, Applicant does not describe what is meant by the phrase "wherein substantially all of the microparticles have a single, nominal size". What size range does applicant intend to be encompassed by the open and undefined term "nominal"? Examiner broadly interprets the above phrase as reading on microparticles having a singular size of 175 microns +/- 174 microns.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 18,28,29,34,35,42,43,46,47,48,49,59,61 and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by US 3,849,350 to Matsko.

Matsko teaches a composite containing from 5 to 10% by weight of a binder and 90 to 95% by weight of glass microspheres. Microsphere diameter sizes can range from 20 to 100 microns. Depending on the application, larger or small sized microspheres can be used (Col 3, lines 50-63). Since the glass microspheres are the predominant material used in the composite it is fairly reasonable to assume that they take up most of the volume in the resulting composite. Since the hollow glass spheres and matrix resin are used in the claimed amounts and the components are blended, it is reasonable to assume that there is substantially no void space between microsphere particles.

7. Claims 30-33,36,39,50,51,52,53,54,63 and 64 are rejected under 35 U.S.C.

Art Unit: 1764

102(b) as being anticipated by US 3,652,486 to Young.

Young describes carvable epoxy resin compositions (Col 1, line 1). Hollow glass spheres can be used in amounts of 5 to 100 parts, and no less than 5 parts of diamide per 100 parts of epoxy resin (Col 4, lines 49-57) which falls within applicant's claimed weight ranges. Since the hollow glass spheres and matrix resin are used in the claimed amounts and the components are blended, it is reasonable to assume that there is substantially no void space between microsphere particles.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-17, 19-27, 37, 38, 40, 41, 44, 45, 55, 56, 57, 58 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,819,608 to Filice et al.

Filice et al discloses a composite constructed of syntactic foam. Core (Fig.12, items 24) is a syntactic foam which consists of a plurality of hollow microspheres that are less than 100 microns in diameter. The volume proportion of the hollow microspheres to a synthetic resin matrix making up the core is such that the density of the syntactic foam is substantially less than a solid or laminated hard wood core (Col 2, lines 55-63). The core is surrounded by compression strips (Fig.12, item 28). Said compression strips can be made of glass fibers (Col 4, lines 51-53). Although the claimed percent by volume of microspheres with respects to overall composite volume is not disclosed by

Art Unit: 1764

Filice et al, it would have been obvious to one of ordinary skill in the art to have engaged in routine experimentation to obtain the claimed percent by volume of microspheres since too many microspheres will lead to a weak overall structure whereas too little of an amount of microspheres would result with an undesirably heavy composite. As such, striking a fine balance between weight and strength is an objective one of ordinary skill in the art would have been aware of. Examiner notes that since the hollow glass spheres and matrix resin are used in the claimed amounts and the components are blended, it is reasonable to assume that there is substantially no void space between microsphere particles.

With respects to claims 13,14, since microspheres are rendered obvious in the claimed amounts as a volumetric ratio of microspheres to the synthetic resin matrix, and the microspheres have the claimed size, the claimed specific gravity of the resulting composite is considered to be inherent

Although Filice et al do not explicitly teach the claimed specific gravity, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. microspheres in claimed size range, synthetic resin matrix) and in the similar production steps (i.e. blending microspheres and synthetic resin matrix such that the claimed volumetric ratio of microspheres to synthetic matrix resin is achieved) used to produce the composite. The burden is upon the Applicant to prove otherwise. In the alternative, the claimed specific gravity would obviously have been provided by the process disclosed by Filice et al.

Conclusion

Art Unit: 1764

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Alex Wachtel, whose number is (703)-306-0320. The Examiner can normally be reached Mondays-Fridays from 10:30am to 6:30pm.

If attempts to reach the Examiner by telephone are unsuccessful and the matter is urgent, the Examiner's supervisor, Mr. Glenn Caldarola can be reached at (703) 308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



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